

REMARKS

The Office Action dated June 7, 2006, has been received and carefully noted. The above amendments to the claims, and the following remarks, are submitted as a full and complete response thereto.

Claims 1, 6, 14-16 and 21 have has been amended to more particularly point out and distinctly claim the subject matter of the invention. Claims 22-26 have been added. No new matter has been added, and no new issues are raised which require further consideration and/or search. Claims 1-26 are submitted for consideration.

The Office Action indicated that claims 1-20 would be allowable if rewritten or amended to overcome the rejections under 35 U.S.C. 112, second paragraph. As outlined below, Applicants submit that claims 1-20 have been amended to overcome the rejections under 35 U.S.C. 112, second paragraph, and request the allowance of claims 1-20.

Claims 15 and 16 were objected to because of informalities. According to the Office Action, "Si oxide" should be -Si surface--.. Applicants submit that claims 15 and 16 are directed to Si oxide (11) instead of Si oxide (120. Therefore, claims 15 and 16 have been amended and Applicants request that this objection be withdrawn.

Claims 1-21 were rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point our and distinctly claim the subject matter which applicant regards as the invention. Specifically, claim 1 was rejected for using the term "preferentially." Claim 6 was also rejected for reciting the term "preferably."

Claims 1 and 6 have been amended to overcome this rejection. Therefore, Applicants request that the rejection be withdrawn.

Claim 21 was rejected under 35 U.S.C. 102(b) as being anticipated by U.S. Patent No. 5,442,205 to Brasen. The rejection is traversed as being based on a reference that neither teaches nor suggests each element of claim 21.

Claim 21 recites a lattice-tuning semiconductor substrate including a defining unit configured to define parallel strips (12) of a Si surface by spaced parallel isolating means (2; 11) provided along opposite edges of the strips. The substrate also includes a selectively growing unit configured to selectively grow a first SiGe layer (13) on the strips (12) and not on the isolating means (2; 11) between the strips, such that first dislocations (14) extend across the first SiGe layer (13) between the isolating means (2; 11) to relieve the strain in the first SiGe layer (13) in directions transverse to the isolating means (2; 11). The substrate further includes a growing unit configured to grow a second SiGe layer (13a) on top of the first SiGe layer (13) to overgrow the isolating means (2; 11) such that second dislocations (15) form within the second SiGe layer (13a) above the isolating means (2; 11) to relieve the strain in the second SiGe layer (13a) in directions transverse to the first dislocations (14).

As will be discussed below, the cited prior art reference of Brasen fails to disclose or suggest the elements of claim 21.

Brasen discloses a process for making a low defect density semiconductor heterostructure by providing a silicon substrate. Brasen also discloses growing at high

temperature on the silicon substrate a large area of graded layer of germanium-silicon alloy and growing a cap layer at final composition. See figure 1 and Col. 3, line 20-Col. 4, line 22.

Applicants submit that Brasen does not teach or suggest each element of claim 21. There is no teaching or suggestion in Brasen of a defining unit configured to define parallel strips (12) of a Si surface by spaced parallel isolating means (2; 11) provided along opposite edges of the strips, as recited in claim 21. Brasen only teaches in Col. 3, lines 44-45 that the starting composition is preferably pure silicon. However, there is no teaching or suggestion in Brasen that parallel strips of the silicon surface is defined by spaced isolating means. Brasen also does not teach or suggest a selectively growing unit configured to selectively grow a first SiGe layer (13) on the strips (12) and not on the isolating means (2; 11) between the strips, such that first dislocations (14) extend across the first SiGe layer (13) between the isolating means (2; 11) to relieve the strain in the first SiGe layer (13) in directions transverse to the isolating means (2; 11) and a growing unit configured to grow a second SiGe layer (13a) on top of the first SiGe layer (13) to overgrow the isolating means (2; 11) such that second dislocations (15) form within the second SiGe layer (13a) above the isolating means (2; 11) to relieve the strain in the second SiGe layer (13a) in directions transverse to the first dislocations (14), as recited in claim 21. In fact, there is no teaching or suggestion in Brasen of first and/or second dislocations to relieve the strain in the first and second SiGe layers. Therefore,

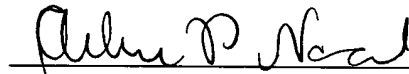
Applicants assert that the rejection of claim 21 be withdrawn because Brasen fails to disclose or suggest each element of claim 21.

Newly added claims 22-26 are dependent on claims 1-20 which were indicated to be allowable. As noted previously, claim 21 recites subject matter which is neither disclosed nor suggested in the prior art references cited in the Office Action. It is therefore respectfully requested that all of claims 1-26 be allowed and this application passed to issue.

If for any reason the Examiner determines that the application is not now in condition for allowance, it is respectfully requested that the Examiner contact, by telephone, the applicants' undersigned attorney at the indicated telephone number to arrange for an interview to expedite the disposition of this application.

In the event this paper is not being timely filed, the applicants respectfully petition for an appropriate extension of time. Any fees for such an extension together with any additional fees may be charged to Counsel's Deposit Account 50-2222.

Respectfully submitted,



Arlene P. Neal

Registration No. 43,828

Customer No. 32294
SQUIRE, SANDERS & DEMPSEY LLP
14TH Floor
8000 Towers Crescent Drive
Tysons Corner, Virginia 22182-2700
Telephone: 703-720-7800
Fax: 703-720-7802

APN:kmp

Enclosures: Additional Claim Fee Transmittal
Check No. 15001